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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,889	03/12/2004	Masayuki Takahashi	040113	4896
23850 7590 08/08/2008 KRATZ, QUINTOS & HANSON, LLP 1420 K Street, N.W. Suite 400 WASHINGTON, DC 20005				
EXAMINER				
OMCBA, ESSAMA				
ART UNIT		PAPER NUMBER		
3726				
MAIL DATE		DELIVERY MODE		
08/08/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/798,889

**Applicant(s)**

TAKAHASHI ET AL.

**Examiner**

Essama Omgba

**Art Unit**

3726

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 April 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 4-13 is/are pending in the application.
- 4a) Of the above claim(s) 6 and 7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 4, 5 and 8-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1, 5, 8, 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (AAPA) in view of Horn (US Patent 4,660,266) or Bailey et al. (US Patent 3,818,577) or Yokota (US Patent 6,666,584) and McCrea (US Patent 3,510,551).

Applicant, at pages 1-3 of the specification to be known as AAPA, discloses a bearing manufacturing method for manufacturing a bearing member for supporting a crankshaft of an internal engine, the bearing member having a body part formed of a first material of an aluminum alloy, and a bearing part formed of a second material of an aluminum alloy having a high silicon content, the bearing part having a bearing surface of a semicircular cross section and integrally combined with the body part, wherein the bearing member is manufactured as a half cylinder in a mold. AAPA does not disclose forming the bearing member by casting a primary cylindrical workpiece in a mold and dividing the primary workpiece into halves along a center line to obtain two substantially equivalent secondary workpieces for forming two equivalent bearing members nor does AAPA disclose the recited casting steps. However it is known to form two substantially equivalent bearing members by casting a primary cylindrical workpiece in a mold and dividing the primary workpiece along a center plane including a center axis of the primary workpiece to obtain two substantially equivalent bearing members as attested

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by Horn, see column 1, lines 12-18 and 34-44 and column 2, lines 24-25. Furthermore, Bailey et al. teaches casting two parts that are to be clamped together either separately or as an integral piece that is saw-cut to obtain two mating parts, see column 1, lines 15-28. Still Yokota teaches manufacturing a bearing cage as a unitary cylindrical member or as two half cylindrical shells from a cylindrical member that is subsequently divided in two, see column 2, lines 53-57. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have manufactured the bearing members of AAPA from a cylindrical primary workpiece that is subsequently divided a long a center plane, in light of the teachings of Horn, Bailey et al. or Yokota, in order to increase production of the bearing members.

Although AAPA/Horn/Bailey et al./Yokota does disclose the particular recited casting steps, however it is conventional to cast composite articles by forming a first workpiece, placing the first workpiece in a mold with a cavity formed around the first workpiece, and pouring a second material in a molten state around the first workpiece placed in the mold to metallurgically bond together the first workpiece and the second material along an interface therebetween to thus form, in the mold, a primary workpiece including the first workpiece and a second workpiece as attested by McCrea, see column 1, lines 41-48 and 69-72 and column 2, lines 1-6. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have used the casting process of McCrea in the bearing manufacture method of AAPA/Horn/Bailey et al./Yokota, as is known in the art. Applicant should note that bearing members as claimed are typically short cylindrical or half-cylindrical members. Also the coefficient of

linear expansion of the first material disclosed in AAPA is greater than the coefficient of linear expansion of the second material.

Regarding claim 9, applicant should note that it is within the general knowledge of one of ordinary skill in the art to use an appropriately shaped mold for the desired product.

Regarding claim 11, Applicant should note that manufacturing the short cylindrical members by an extrusion process is an obvious matter of design choice.

Regarding claim 13, Applicant should note that such choice of material is conventional in the art.

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA/Horn/Bailey et al./Yokota/McCrea as applied to claim 1 above, and further in view of Beyer-Steinhauer et al. (DE 19959540).

AAPA/Horn/Bailey et al./Yokota/McCrea discloses a bearing manufacturing method as shown above. Although AAPA/Horn does not disclose the molten first material being poured into the cavity so as to flow in a swirling current in the cavity, however it is known to pour molten material in mold cavity in a swirling current so as to promote uniform flow of the molten material inside the mold as attested by Beyer-Steinhauer et al., see abstract. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have poured the metal in the method of AAPA/Horn/Bailey et al./Yokota/McCrea so that as to flow in a swirling current in the mold cavity, in light of the teachings of Beyer-Steinhauer et al., in order to promote uniform flow of the molten material inside the mold.

***Response to Arguments***

4. Applicant's arguments filed April 24, 2008 have been fully considered but they are not persuasive.

In response to Applicant's argument that the information disclosed on pages 1-3 of the specifications shall be referred to as "Related Art" as opposed to the examiner's term "Applicant's Admitted Prior Art" or "APA", the examiner submits that in as much as what is considered state of the art is described in the "Related Art" section of the specification, it is proper to call it "AAPA" since Applicant only describes what was known in the art at the time the invention was made.

In response to Applicant's Argument that Related Art, Horn'266, Bailey'577, Yokota'584 and McCre'a'551, alone or in combination, fail to describe, teach, or suggest the following feature set forth in claim'1: "forming short, cylindrical first workpieces made of the second material and each having a cylindrical inside surface serving as the bearing surface", in combination with the other claimed features, the examiner respectfully disagrees. As outlined in the rejections, AAPA or "Related Art" to use Applicant's expression, discloses a bearing manufacturing method for manufacturing a bearing member for supporting a crankshaft of an internal engine, the bearing member having a body part formed of a first material of an aluminum alloy, and a bearing part formed of a second material of an aluminum alloy having a high silicon content, the bearing part having a bearing surface of a semicircular cross section and integrally combined with the body part, wherein the bearing member is manufactured as a half cylinder in a mold. The examiner submits that this clearly teaches short half-cylindrical

workpieces (bearing parts) made of a second material and each having a half-cylindrical inside surface serving as the bearing surface". These bearing parts are produced individually. The examiner has clearly shown that instead of individually producing these half cylindrical parts individually, they could be produced as cylindrical parts that are subsequently cut in half to obtain the individual half cylindrical parts, this process would increase production of the bearing members and thus save on production costs. The examiner maintains that one of ordinary skill in the art, when presented with the teachings of AAPA (Related Art), Horn, Bailey, Yokota and McCrea, would have found it obvious to arrive at Applicant's invention as claimed in the instant application.

In view of the above remarks, the examiner maintains that a *prima facie* case of obviousness has been established in the instant application.

### ***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Essama Omgba whose telephone number is (571) 272-4532. The examiner can normally be reached on M-F 9-6:30, 1st Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bryant can be reached on (571) 272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Essama Omgba/  
Primary Examiner, Art Unit 3726

eo  
August 3, 2008